

**Slovak Society of Chemical Engineering
Institute of Chemical and Environmental Engineering
Slovak University of Technology in Bratislava**

PROCEEDINGS

33rd International Conference of Slovak Society of Chemical Engineering

**Hotel Hutník
Tatranské Matliare, Slovakia
May 22 – 26, 2006**

Editors: J. Markoš and V. Štefuca

ISBN 80-227-2409-2

Ohmic heating in a food application – quality evaluation of cloudberry jam

Ingela Lindbom, Joe Kerry, Helena Nunes, Ricardo Pereira, Maria Jose Sousa Gallagher, Ladislav Staruch, José António Teixeira, Karin Wendin, Antonio Vicente

SIK – the Swedish Institute for Food and Biotechnology
Box 5401
402 29 Gothenburg
Sweden
Tel: +46 31 33 55 603
Fax: +46 31 83 37 82
e-mail: ingela.lindbom@sik.se

Ohmic heating, Joule heating, food, jam, sensory analysis, consumer evaluation, rheology

New techniques for food processing are areas of interest for the food industry and ohmic heating is an example of a new technique where there are many possible applications in the food area. The aim of this work was to characterize and compare quality aspects of high quality cloudberry jam with 70 weight-% berries produced on one hand by traditional batch processing technique and on the other hand by ohmic heating in a continuous process. Sensory analysis was performed on the two jams by a trained panel. In order to investigate the consumer opinions in different countries a consumer study was performed including 402 consumers from the four countries Sweden, Portugal, Ireland and Slovakia. Rheological properties of the jam were also measured. The results showed that there were no significant differences for any of the sensory attributes between the jam produced by traditional technique and the jam produced by ohmic heating. The results from the consumer study showed that in all four countries, the appearance, odour, flavour, texture, aftertaste and overall quality of both jams were liked to the same extent. However, differences in liking cloudberry jam differed between the participating countries. The Swedish and the Portuguese consumers were in general giving higher scores on the liking of the cloudberry jams than the Slovakian and Irish consumers. There were no differences found between the two jams according to the rheological properties of the samples. The results indicated that it was possible to maintain the same quality of cloudberry jam produced by ohmic heating as of cloudberry jam produced in a traditional way.